ABSTRACT OF THE DISCLOSURE

This invention relates to a method of making optical fiber having low polarization dependence and an acousto-optical filter with low PDL. A section of the fiber is heated and then allowed to cool. At least the heating is controlled to reduce stresses in a cladding layer surrounding a core of the interaction length after the interaction length is allowed to cool to reduce polarization dependence of the cladding layer. Preferably, at least time and temperature of heating is controlled.